MITSUBISHI ELECTRIC
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for a greener tomorrow

iQ Platform-compatible PAC CANopen® Module

MELSEC iQ-R series

Brief

MELSEC iQ-R Series Broadcast

Open and reliable fieldbus network

The MELSEC iQ-R Series CANopen® module supports the open and reliable CANopen® network, enabling it to be used in a number of applications. Based on the CAN bus, the network combines low cost with high performance in industries such as industrial automation, medical equipment, transportation, and maritime electronics.

Manage communication between network devices

The module supports various telegram messages such as process data objects (PDO), service data objects (SDO) and network managing messages (NMT message and Heartbeat protocol), enabling communication and control of CANopen® network nodes.

Highlights

- Highly versatile use in many industries
- Supports process data object (PDO) network layer
- Network management using NMT message
- Dedicated CANopen® configuration tool
- Easy network implementation reduces development cost

Dedicated configuration tool

The CANopen® module can be parameterized using the dedicated CANopen® configuration tool or GX Works3.

Reduce development time and cost

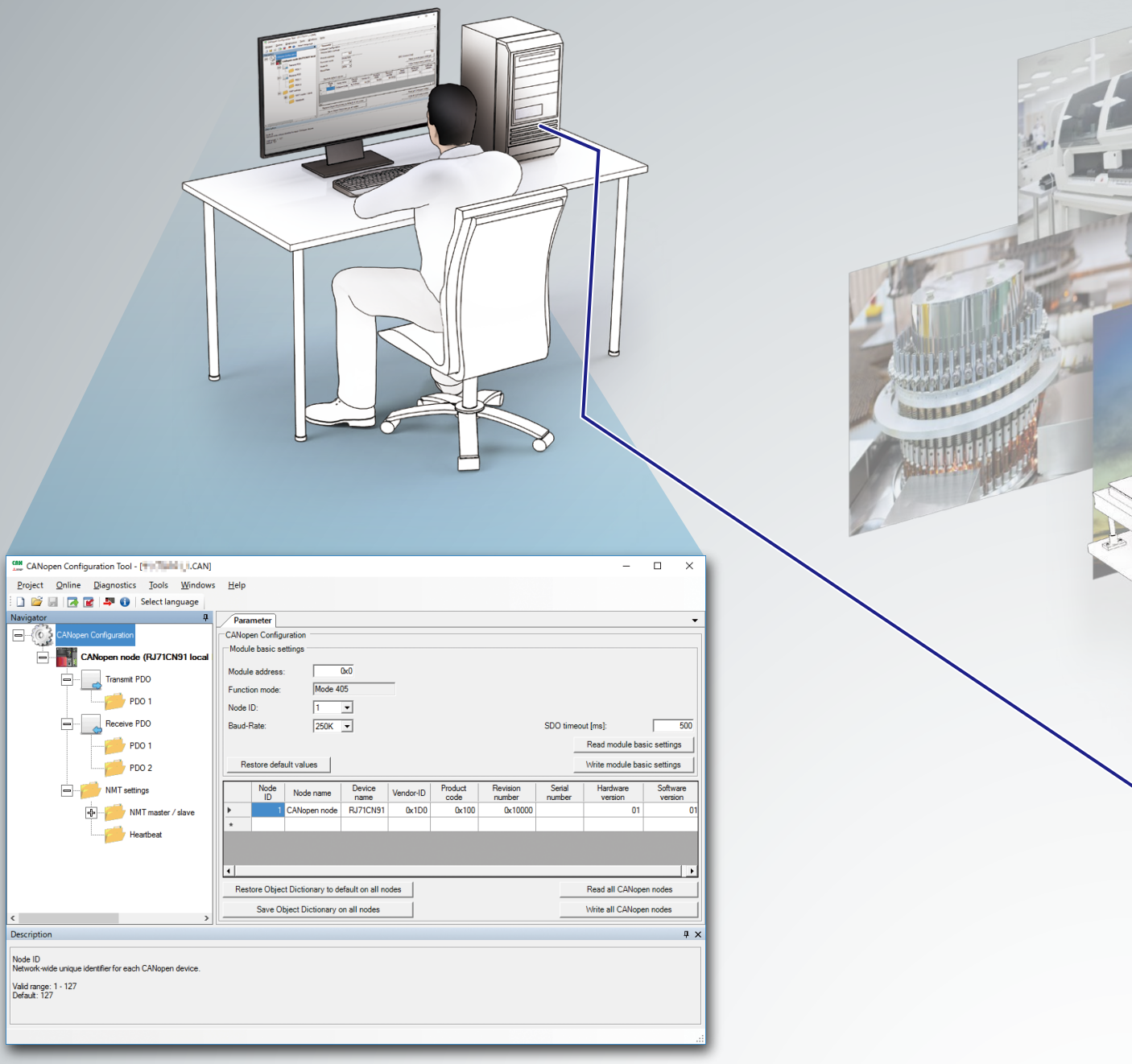
CANopen® is an open network that is highly versatile, enabling standardization of objects, such as motor and remote I/O, used in previous applications. Device manufacturers can also reduce development costs as required functions are defined for each device.

CANopen®

CAN*1 in Automation (CiA®)

CANopen® is a CAN-based communication system developed and maintained by CAN in Automation (CiA®), an international users and manufacturers group based in Nuremberg, Germany. It comprises higher-layer protocols and profile specifications, and has been developed as a standardized embedded network with highly flexible configuration capabilities. Originally designed for motion-orientated machine control systems, it is used in various applications such as medical equipment, maritime electronics, and building automation.

*1. Controller Area Network



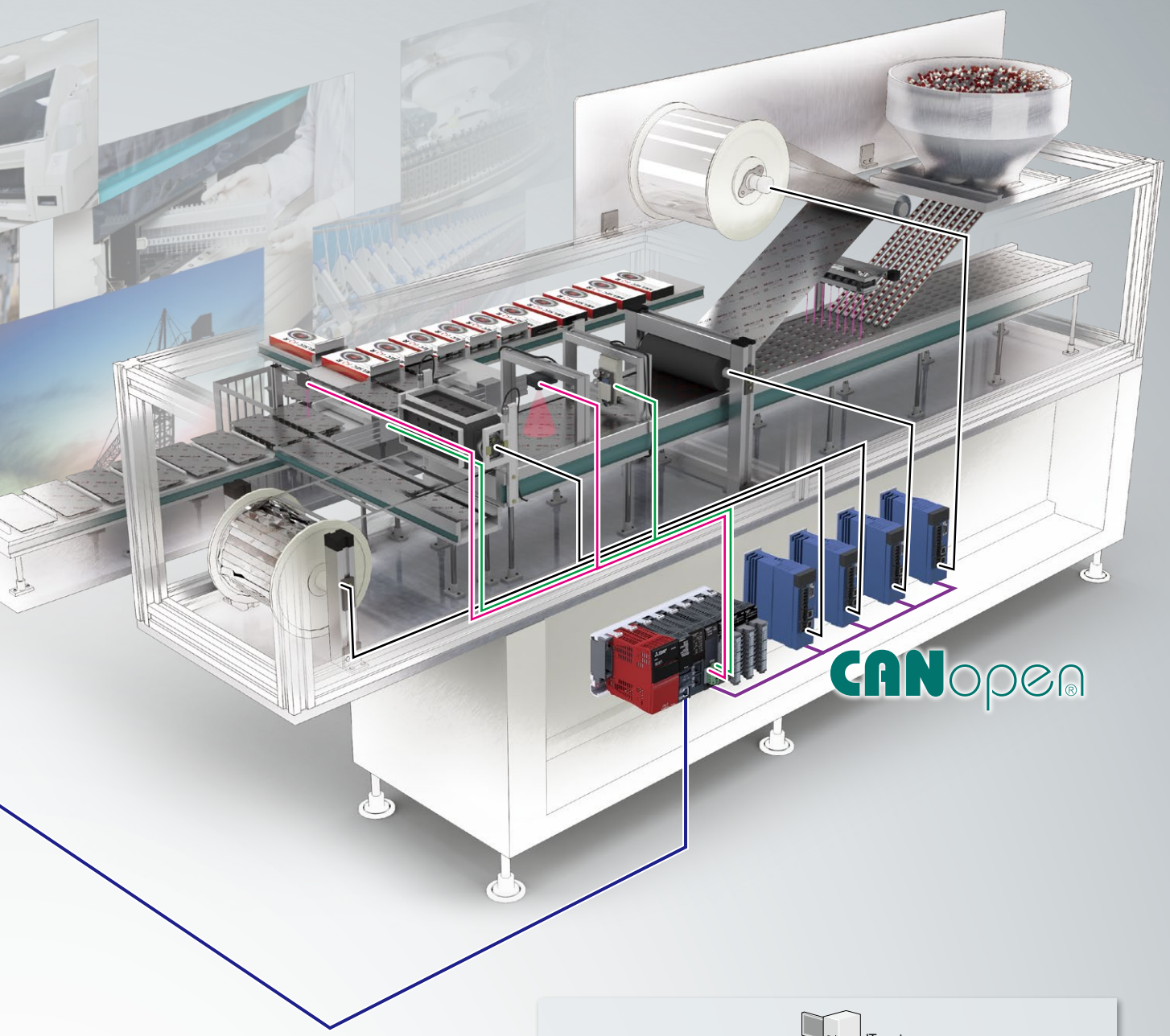
Reduce development time

The CANopen® module can be easily setup using the CANopen® configuration tool equipped with a graphic user interface that is familiar to CANopen® users, and supporting various functions, such as process data objects (PDO), service data objects (SDO), and network management (NMT). It can also be setup using the label (variable) programming and refresh setting of GX Works3. Connection to the module is simple using either a USB cable or an Ethernet connection from a computer, enabling programming and maintenance of the CANopen® network.

Embedded machine architecture

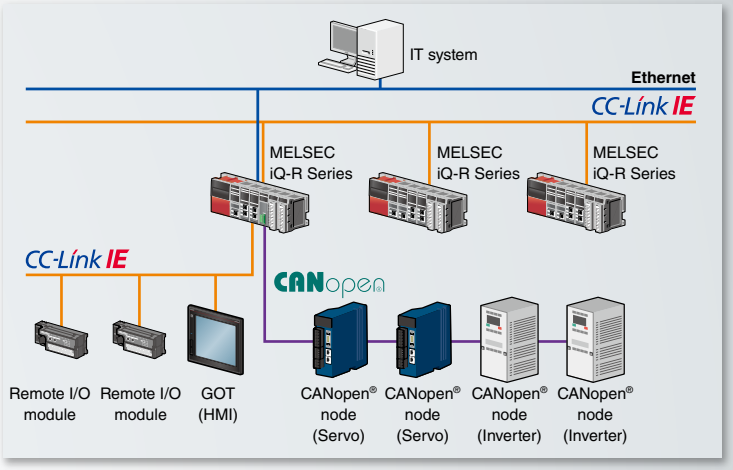
The MELSEC iQ-R CANopen® network module supports*2 both CANopen® and CAN protocols. CANopen®-supporting nodes can be easily connected as part of the overall embedded control system utilizing the availability of various CANopen®-supported devices. Wiring of the CANopen® module is simple using the open-ended cable terminal block and does not require any special equipment.

*2. CANopen® and CAN protocols cannot be used simultaneously.



Integrated network configuration

The MELSEC iQ-R Series is part of a family of products all interconnected across various levels of automation. Data flows transparently between the sensor level and the management level across multiple industry-standard automation networks. By utilizing the MELSEC iQ-R CANopen® network module, CANopen®-supported third-party devices can be easily integrated into the complete control system architecture.



CANopen® module

- Supports various CANopen® communications such as PDO, SDO, and NMT
- Easy wiring with open-ended cable terminal connector*1
- Module supports both CANopen® and CAN protocols
- Dedicated CANopen® configuration tool

*1. Terminal block provided by PHOENIX CONTACT GmbH & Co. KG (**www.phoenixcontact.com**), model MSTB2,5/5-STF-5,08AU-M.

CANopen® module specifications

Item	RJ71CN91
Network topology	CAN bus network (RS-485, CSMA/CR)
Supported network protocol	CANopen®, CAN
Supported communication service*2	CiA®-301 V4.2, CiA®-302 V4.1, CiA®-305 V2.2
Supported device/application profile*2	CiA®-405 V2.0 (Interface and device profile for IEC 61131-3 programmable devices)
Remote transmit request (RTR)	CANopen®405 mode: Not supported for PDO 11-bit CAN-ID Layer 2 message mode and 29-bit CAN-ID Layer 2 message mode: Supported
Communication data size (CANopen®405 mode)	4 words x 256 (TPDO), 4 words x 256 (RPDO)
Frame format	Base frame format (11-bit CAN-ID Layer 2 message mode), Extended frame format (29-bit CAN-ID Layer 2 message mode)
Selectable Node ID	1...127
Communication method	Acyclic, cyclic, or event-driven
Transmission speed (bps)	1M/800k/500k/250k/125k/100k/50k/20k/10k
Maximum cable length	5000 m (10 kbps), 2500 m (20 kbps), 1000 m (50 kbps), 600 m (100 kbps), 500 m (125 kbps), 250 m (250 kbps), 100 m (500 kbps), 50 m (800 kbps), 25 m (1 Mbps)
Connection cable	CAN bus cable (conform to ISO 11898)
Interface	Two-piece pluggable terminal block
Maximum flash ROM write access	100,000
Setup software	
CANopen® configuration tool	SW1DNN-CANOPCT-BD*3

*2. Compliant with CiA® standards.
*3. To obtain the software, please contact your local Mitsubishi Electric office or representative.

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⚠ For safe use

- To use the products listed in this publication properly, always read the relevant manuals before use.

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